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Improve Trout Angling by Poisoning Coarse Fish

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Trout angling declines as coarse fish become more numerous

In many lakes of the Maritime provinces speckled trout have declined in numbers, or even disappeared, as the intensity of angling has increased. At the same time, other fish, often yellow and white perch, in which the angler has little interest, have not been removed, with the result that these coarse fish have had the opportunity to become dominant. In other cases such fish have been introduced, sometimes as live bait, and have become abundant, resulting in a scarcity of trout.

Each lake has a certain fish-producing capacity

When the fish-producing capacity of a lake is taken over by fish which are enemies or competitors of trout, extremely little, if any, improvement in the angling will follow the introduction of trout. The destruction of the coarse fish is the first step toward the restoration of a trout population.

Fish populations can be destroyed by poisoning

It has been found in our experiments that derris powder will kill fish in concentrations as low as one-half of a pound of the powder to one million pounds of water. In natural waters it is safer to use a somewhat higher concentration. At this concentration trout foods are largely unaffected and warm-blooded animals are not harmed. Moreover, derris powder soon loses its power to kill fish when added to water, so that trout can be introduced safely into the treated water after one month.

Trout angling can be improved by poisoning coarse fish

The case of McFadden's lake, New Brunswick, is an illustration. Records of a fishing club on this lake show good trout angling over a period of sixty years until yellow perch were accidentally introduced and became plentiful. When the perch were killed by derris powder, under supervision of the Fish Culture Branch of the Department of Fisheries, stocking with trout fingerlings successfully restored an abundant trout population. Not only in New Brunswick, but in Quebec, Michigan, Wisconsin and elsewhere, fishery workers have poisoned coarse fish with derris powder as a means of improving the angling for game species.

Worth while only in good trout lakes

Obviously it is useless to poison the coarse fish in a lake which will not support a good population of trout. The best evidence is knowledge of previous good trout angling.

Difficult in deep lakes

Derris powder is more effective as a fish poison in warm than in cool water. The treatment of lakes should be carried out in summer. However, only shallow lakes can be properly treated, since in summer, as a result of temperature differences, the surface and bottom waters of even moderately deep lakes are not mixed by wind action and the distribution of the poison is not thorough. In such lakes the experience has been that some coarse fish survive the poisoning and soon re-populate the lake.

Difficult with much inflowing water

When a considerable volume of water is entering a lake, either in surface streams or springs, fish may survive in this water in which it is very difficult to maintain enough poison to kill them.

Screening may be necessary

The re-entrance of the coarse fish must be prevented. Except in a few cases, where there is a natural barrier, this requires that a screen be installed and maintained.

Expense depends on size

The size of lake that can be treated economically is determined by the cost of derris powder required and the labour needed to distribute it. To date, few attempts have been made to poison fish in lakes with areas greater than 100 acres. For example, a 50-acre lake with an average depth of 10 feet contains about 1,360,000,000 pounds of water and would need 680 pounds of derris powder of normal strength, which now costs about 50¢ per pound. To this must be added the cost of determining the volume of the lake, the labour of poisoning and the cost of screening.

Warning

The poisoning of fish can be carried out only with permission of Dominion and Provincial fisheries authorities, and Provincial health authorities.

Advice offered

Enquiries may be addressed to the Atlantic Biological Station, St. Andrews, N. B., which, in co-operation with the Fish Culture Branch of the Department of Fisheries, will give advice on the probable value and best method of poisoning any particular lake which you are interested in ridding of coarse fish. This will require time for examination of the lake. The advice will be given free, but the Department of Fisheries or Fisheries Research Board assure no further contribution to the expense of the project.